

**NJDOT Bureau of Research  
QUARTERLY PROGRESS REPORT**

<b>Project Title:</b> <b>Non-Contact Skid Resistance Measurement</b>	
<b>RFP Number:</b> 2000-08	<b>NJDOT Research Project Manager:</b> Vincent Nichnadowicz
<b>Task Order Number/Study Number:</b> TO-80	<b>Principal Investigator:</b> Meegoda, Jay N.
<b>Project Starting Date:</b> 1/1/2008	<b>Period Starting Date:</b> 04/01/2008
<b>Original Project Ending Date:</b> 12/31/2009	<b>Period Ending Date:</b> 06/30/2008
<b>Modified Completion Date:</b>	

Task	% of Total Budget	Total Budget	% of Task this quarter	Cost this quarter	% of Task to date	Cost To Date
Literature Search and Review	10	\$14,323	20	\$2,865	100	\$14,323
Selection of a Non Contact Method to measure Surface	15	\$126,485	100	\$126,485	100	\$126,485
Field Evaluation of Surface Texture	15	\$21,485	0	\$0	0	\$0
Correlate surface texture from non laser with traditional methods	25	\$35,808	0	\$0	0	\$0
Develop the standard Materials Procedure (MP)	10	\$14,323	0	\$0	0	\$0
Integration of Texture Data into Pavement Management System	15	\$21,485	0	\$0	0	\$0
Quarterly Progress and Final Reports	10	\$14,323	0	\$0	0	\$0
TOTAL	100%	\$248,230		\$129,349		\$140,808

**Project Objectives:**

The objectives of this study are:

- 1 Develop a vehicle-mounted screening device to measure variations in pavement texture using a non-contact high-speed method.
- 2 Correlate that with CT Meter test procedure presented in ASTM E2157 to validate macro-texture measurements.
- 3 Recommend development of NJDOT specification for implementation of the surface texture measurement methods.

**Project Abstract:**

Pavement texture is the controlling factor in the skid-resistance level of roadway surfaces. Through a complex interaction of micro and macro textures at the pavement-tire interface, sufficient friction is needed for vehicles to perform routine maneuvers under normal operating conditions. To obtain more complete data on texture, a non-contact high-speed method was developed to permit the collection of pavement data from a vehicle moving at highway speeds. This method can be correlated with CT Meter test procedure presented

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in ASTM E2157 to validate macro-texture measurements. These methods combine existing designs for the measurement of macro-texture. This research will develop a correlation of macro-texture measurements with skid resistance values to allow the Department to estimate skid values of the pavement network while collecting pavement ride quality data for the PMS with one piece of equipment on an annual basis. This will significantly reduce the need for the ASTM E 274 skid resistance trailer to collect the skid resistance data. The screening of the state's pavement network would allow detailed measurement of the pavement-tire interface with ASTM E 274 skid resistance trailer.

**1. Progress this quarter by task:**

The progress of the project to date is approximately 25%  
Phase I-Literature Search and Review completed and submitted a report  
Phase II Task 1 - Selection of a Non Contact Method to measure Surface completed and ordered all equipment

**2. Proposed activities for next quarter by task:**

Phase II Task 2 - Field Evaluation of Surface Texture from a Non Contact Method

**3. List of deliverables provided in this quarter by task (product date):**

None

**4. Progress on implementation and training activities:**

None

**5. Problems/proposed solutions:**

None

**6. Budget summary:**

Total Project Budget	\$248,230
Modified Contract Amount	\$0.00
Funding Award to Date	\$170,538
Total Project Expenditure to date	\$140,808
% of Total Project Budget Expended	56.72 %
% of Total Project Completed	25.00 %

**NJDOT Research Project Manager Concurrence:** \_\_\_\_\_

**Date:** \_\_\_\_\_